

A RECEPTACLE HAVING A NECK PROVIDED WITH TWO PORTIONS OF  
DIFFERENT DIAMETERS

The present invention relates to packaging and  
dispenser devices, in particular receptacles for  
5 containing cosmetics and applicators for fixing on such  
receptacles.

BACKGROUND OF THE INVENTION

The term "cosmetic" is used herein to designate any  
"cosmetic product" as defined in EEC Council Directive  
10 93/35/EEC of June 14, 1993.

At present, there exist hair-coloring kits including  
a flask containing an oxidizer, said flask having a  
threaded neck of a certain diameter which, prior to use,  
is closed by a cap having a corresponding diameter. The  
15 cap is manufactured using a mold having a large number of  
recesses and of a cost that is relatively high.

Accessories such as applicator combs having a  
plurality of dispenser orifices are made available  
together with the flasks.

20 When, because of their nature or for manufacturing  
reasons the accessories put on offer cannot be made in  
such a manner as to be capable of being screwed onto the  
threaded neck of an existing flask, it is necessary to  
make new flasks and new caps, which means that new molds  
25 need to be made. In addition, existing accessories can  
no longer be used on the new flasks unless adapters are  
provided, but that leads to extra costs and in addition  
that can lead to problems of leakage or ugly appearance.

OBJECTS AND SUMMARY OF THE INVENTION

30 The present invention seeks to remedy those  
drawbacks in full or in part.

In one of its aspects, the invention thus provides a  
receptacle comprising:

- a body; and
- 35 - a neck, comprising:

- a first portion having a first diameter, in particular a first inside diameter, and having first fixing means; and

5       - a second portion situated between the body of the receptacle and the first portion, said second portion having a second diameter, in particular a second inside diameter, greater than the first diameter, and having second fixing means.

10       It is then possible to fix accessories of different kinds on the first and second portions of such a receptacle, e.g. by screw fastening or snap-fastening, depending on the nature of the fixing means.

15       By way of example, the first portion may be configured to receive existing accessories, having the same diameter as the neck of existing flasks, and the second portion may be configured, for example, to receive a newly-developed accessory, which new accessory has a assembly skirt presenting a relatively large diameter.

20       Thus, the invention makes it possible to continue to be able to use existing caps, thus avoiding the need to make new molds for caps.

      The invention also makes it possible to use a greater variety of accessories in association with a given receptacle, and without having to use adapters.

25       In an embodiment of the invention, the neck has a shoulder, in particular an inside shoulder, connecting the first portion with the second portion. Such a shoulder may, for example, define a plane annular surface extending outside the neck, perpendicular to the axis thereof. This annular surface may be used, as described  
30       in greater detail below, to co-operate with an accessory so as to obtain sealing.

      At least one of the first and second portions may include a thread enabling an accessory to be screwed onto  
35       the neck of the receptacle. Such a thread may be made in various ways and may comprise, for example, a one-start thread or a multiple-start thread.

In a variant, or in addition, at least one of the first and second portions include a snap-fastening shape in relief comprising an annular bead, for example, enabling an accessory to be fixed onto the neck of the receptacle by snap-fastening.

The neck of the receptacle may have first and second fixing means of the same type, both being constituted, for example, by snap-fastening means or by threads that enable screw fastening to be performed by turning in the same direction, or which may be of different types, the first fixing means being constituted by a thread, for example, with the second fixing means being constituted by snap-fastening means, or vice versa.

At least one of the first and second fixing means may also be configured, for example, so as to enable snap-fastening to take place after performing a screw fastening operation, such snap-fastening having the function, for example, of making unscrewing more difficult, or merely of informing the user that the accessory has been screwed on far enough.

The receptacle may advantageously be made of a plastics material.

In another of its aspects, the invention also provides a kit comprising a receptacle as defined above together with at least one accessory configured to be fixed on the neck, e.g. by screw fastening.

In an embodiment of the invention, the accessory is configured to be fixed on the second portion, e.g. by screw fastening. The accessory may then have a assembly skirt configured to fix on the second portion, e.g. by screw fastening, said skirt including a sealing surface for coming to bear against a shoulder connecting the first and second portions of the receptacle together. This sealing surface may be defined, for example, by an annular bead.

Sealing between the accessory and the receptacle can thus be provided on the outside of the neck, thus making

it possible in particular for the accessory to be made without a sealing lip that comes to bear against the inside of the neck of the receptacle. This makes it possible to use a manufacturing method for making the  
5 accessory that is incompatible with the presence of such a sealing lip.

In an embodiment, the accessory is constituted by an applicator, in particular an applicator comb.

The applicator may have teeth with at least one of  
10 the teeth including at least one dispenser orifice which may be at a distance from the free end of the corresponding tooth and which may be oriented in such a manner as to limit the risk of dispensing the substance other than between the teeth. Such a configuration is  
15 particularly useful with an applicator comb since it makes it possible to avoid dispensing the substance directly onto the scalp, and it can make it easier to treat locks of hair.

In an embodiment of the invention, the applicator  
20 has at least one row of teeth with end teeth situated at the ends of the row, the end teeth not having any dispenser orifice opening out other than into the gap between the teeth, or indeed not having any dispenser orifice at all.

25 At least one of the teeth in the row situated between the end teeth may have two dispenser orifices opening out sideways on opposite sides of the tooth in a direction parallel to the row.

In an embodiment of the invention, each tooth  
30 situated between the end teeth has at least one dispenser orifice.

The applicator may be made by molding a plastics material, and at least one of the teeth may be provided with at least one groove extending from its free end to a  
35 dispenser orifice formed in the tooth, the groove enabling the tooth to be unmolded by separating two mold portions in a direction parallel to the axis of the

tooth. This can make it simpler to manufacture the applicator.

In an embodiment of the invention, the applicator has at least six teeth, each provided with at least one  
5 dispenser orifice, and preferably with two dispenser orifices opening out in opposite directions.

All of the teeth of the applicator may be of the same length.

When at least one of the first and second portions  
10 of the neck has a thread, the kit may include at least one accessory configured for screwing onto the thread.

When at least one of the first and second portions of the neck includes at least one snap-fastening shape in relief, the kit may include at least one accessory  
15 provided with at least one complementary snap-fastening shape in relief configured to co-operate with the snap-fastening shape of the receptacle.

In an embodiment of the invention, the kit has at least two accessories of different kinds, in particular  
20 designed to be fixed, e.g. by screw fastening, on the first and second portions of the neck, respectively. One of the accessories may be constituted by a cap and the other by an applicator, for example by an applicator comb as defined above.

25 The kit may also have an accessory configured for fixing, e.g. by screw fastening, on the first or the second portion of the neck, said accessory being different from a cap or an applicator comb comprising a row of teeth, being constituted, for example, by a  
30 dispenser endpiece or by a receptacle.

The receptacle may be filled with a cosmetic, for example a substance for coloring the hair.

In another of its aspects, the invention also provides an applicator configured to be fixed, e.g. by  
35 screw fastening, on the neck of a receptacle, the applicator including a assembly skirt configured to be fixed on the receptacle and provided with an annular bead

made on an inside surface of the skirt at a distance from the free end thereof. Such an annular bead makes it possible to obtain sealing, as mentioned above.

In another of its aspects, the invention also provides a method of manufacturing a kit comprising a receptacle as defined above and at least one accessory configured for fixing, e.g. by screw fastening, on the neck, in particular an applicator comb, the method comprising the following steps:

- 10       - making the receptacle;
- filling the receptacle with a cosmetic;
- fixing a cap on the first portion of the neck, e.g. by screw fastening; and
- packaging the receptacle carrying the cap with an applicator configured to be capable of being fixed on the
- 15       second portion of the neck, e.g. by screw fastening.

In another of its aspects, the invention provides a receptacle comprising:

- a body; and
- 20       - a neck, comprising:
  - a first portion having a first inside diameter and including first fixing means; and
  - a second portion situated between the body of the receptacle and the first portion, said second portion
  - 25       having a second inside diameter greater than the first inside diameter, and having second fixing means.

In another of its aspects, the invention provides a receptacle comprising:

- a body; and
- 30       - a neck, comprising:
  - a first portion having a first diameter and including first fixing means;
  - a second portion situated between the body of the receptacle and the first portion, said second portion
  - 35       having a second diameter greater than the first diameter, and having second fixing means; and

- an inside shoulder connecting the first portion to the second portion.

In another of its aspects, the invention provides a receptacle comprising:

- 5       - a body; and
- a neck, comprising:
  - a first portion having a first diameter and including a first thread; and
  - a second portion situated between the body of
  - 10 the receptacle and the first portion, said second portion having a second diameter greater than the first diameter and including a second thread, the first and second threads enabling screw fastening to be performed by turning in the same direction.

15       In another of its aspects, the invention provides a kit comprising:

- a receptacle comprising:
  - a body; and
  - a neck, comprising:
    - 20       - a first portion having a first diameter and including first fixing means; and
    - a second portion situated between the body of the receptacle and the first portion, said second portion having a second diameter greater than the first
    - 25 diameter, and having second fixing means; and
    - at least two accessories of different kinds, selected in particular from an applicator and a cap.

In another of its aspects, the invention provides a kit comprising:

- 30       - a receptacle comprising:
  - a body; and
  - a neck, comprising:
    - a first portion having a first diameter and including first fixing means; and
    - 35       - a second portion situated between the body of the receptacle and the first portion, said second

portion having a second diameter greater than the first inside diameter, and having second fixing means; and

- at least two accessories for fixing to the first and second portions respectively, the accessories  
5 being selected in particular from an applicator and a cap.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The invention can be better understood on reading the following detailed description of non-limiting  
10 embodiments and on examining the accompanying drawings, in which:

- Figure 1 is a diagrammatic and fragmentary axial section view showing a kit in accordance with the invention, the kit comprising a receptacle and a cap  
15 screwed onto the threaded first portion of the neck;

- Figure 2 is a diagrammatic and fragmentary axial section view showing a kit of the invention comprising the receptacle of Figure 1, the cap being replaced by an applicator screwed onto the threaded second portion of  
20 the neck;

- Figure 3 is a diagrammatic and fragmentary axial section view in perspective of the Figure 2 kit;

- Figure 4 is a diagrammatic and fragmentary detail view in axial section of the top portion of one of the  
25 teeth of the applicator in the Figure 2 kit;

- Figure 5 is a diagrammatic and fragmentary axial section view of another example of a kit in accordance with the invention, comprising the Figure 1 receptacle with a dispenser endpiece screwed onto its threaded first  
30 portion;

- Figure 6 is a diagrammatic and fragmentary axial section view of a kit constituting another embodiment of the invention, comprising the Figure 1 receptacle having the neck of a second receptacle screwed onto its threaded  
35 first portion;



- Figure 7 is a diagrammatic and fragmentary axial section view showing a variant of the kit of Figure 1; and

- Figures 8 and 9 are diagrammatic and fragmentary axial section views showing two variant embodiments of the invention.

#### MORE DETAILED DESCRIPTION

Figure 1 shows a kit 1 of the invention comprising a receptacle 2 and a closing cap 3.

10 In the example described, the receptacle 2 is made of a plastics material.

The receptacle 2 comprises a body 4 containing a cosmetic, for example a substance P for coloring the hair, and a neck 5 of axis X.

15 At its top end, the neck 5 has a first portion 6 and at its bottom end it has a second portion 7, the second portion being situated between the body 4 and the first portion 6 and presenting a diameter greater than the diameter of the first portion 6. The first portion is  
20 provided on its outside surface in the example shown with a thread 28 and the second portion 7 is provided on its outside surface with a thread 29.

The first and second threaded portions 6 and 7 are connected together by a shoulder 8 defining a plane  
25 annular surface 9 which extends outwards from the neck 5 perpendicularly to the axis X.

The cap 3 has a tubular skirt provided with an inside thread 10 enabling it to be screwed onto the threaded first portion 6 of the neck 5, as shown in  
30 Figure 1.

Sealing between the neck 5 and the cap 3 is implemented by means of a sealing lip 11 of the cap 3 which presses against the radially inner surface of the threaded first portion 6, which surface is circularly  
35 cylindrical about the axis X.

To apply the substance P to the hair, the user unscrews the cap 3 and screws an applicator comb 15 onto the threaded portion 7, as shown in Figure 2.

5 This applicator 15 is made as a single molding of plastics material. At its bottom end it comprises a assembly skirt 16, and about halfway up it comprises a transverse wall 17 having a row of teeth 18 extending therefrom.

10 This row 18 has two end teeth 19 with six intermediate or "active" teeth 20 being interposed between them, and being of the same length as the end teeth 19.

15 In the example shown, the row 18 extends substantially along the entire diameter of the transverse wall 17 and the six intermediate teeth 20 extend over a length that is greater than the diameter of the threaded first portion 6.

20 Each intermediate tooth 20 has an internal channel 21 whose bottom end opens out through the transverse wall 17 and which communicates with the outside via two dispenser orifices 22.

25 In the example shown, each tooth 20 has two substantially parallel side faces 23 perpendicular to the axis of the row 18, and the two dispenser orifices 22 open out respectively in said two side faces 23 at a non-zero distance from the free end of the tooth, as can be seen in particular in Figures 2 to 4.

30 Grooves 25 extend in each face 23 of the tooth 20 from the dispenser orifice 22 present in said face to the free end of the tooth. The dispenser orifices 22 may be made by means of two mold portions that are movable relative to each other parallel to the longitudinal axis of the teeth 20, and that come into contact at the level of the dispenser orifices 22.

35 The end teeth 19 do not have any dispenser orifices.

Thus, the dispenser orifices 22 of the teeth 20 always open out into a gap lying between two teeth, thus

making it possible to limit the risk of substance being squirted out from the row 18.

In its bottom portion, the assembly skirt 16 has an inside thread 26 enabling it to be screwed onto the threaded second portion 7 of the neck 5.

The assembly skirt 16 also has an annular bead 27 made on the inside surface of the skirt 16, situated immediately above the inside thread 26 in the example shown.

This annular bead 27 is designed to bear against the annular surface 9 of the neck 5, as shown in Figure 2, so as to provide sealing between the neck 5 and the applicator 15.

Because sealing is provided on the outside of the neck 5, it is possible to avoid the need to provide a sealing lip that bears against the inside surface of the threaded portion 6, thus making it possible to provide the applicator 15 with active teeth 20 over a distance that is greater than the diameter of the threaded first portion 6, and thus to provide a relatively large number of teeth, for example six in the example shown.

In order to treat the hair, the user moves the applicator through the hair with the substance P flowing out into the channels 21 leading to the dispenser orifices 22.

The receptacle 2 may be associated with accessories other than a cap 3 and an applicator comb 15.

By way of example, Figure 5 shows an accessory 30 constituted by an endpiece having a single dispenser orifice, and suitable for being screwed onto the neck 5 of the receptacle 2.

This endpiece 30 comprises an assembly skirt 31 with an inside thread suitable for being screwed onto the threaded first portion 6 of the neck 5.

The endpiece 30 also comprises an internal sealing skirt 32 that comes to bear against the inside surface of the threaded first portion 6.

At its top end, the endpiece 30 is provided with a snap-off portion 33 which the user detaches at the moment of use.

It is also possible to use an accessory constituted, by way of example, by a second receptacle 35, as shown in Figure 6, in order to perform extemporaneous mixing of two substances, in particular an oxidizer and a coloring agent, prior to application on the hair.

The second receptacle 35 has a neck 36 with an inside thread configured for screwing onto the threaded first portion of the neck 5. Sealing can be obtained, for example, by pressing the end of the neck 36 against the annular surface 9, which surface may be provided, where appropriate, with sealing means such as a deformable gasket.

Without going beyond the ambit of the present invention, the cap 3 described with reference to Figure 1 may also be configured so as to be suitable for screwing onto the threaded second portion 7 of the neck 5, as shown in Figure 7.

In the examples described above, the accessories are fixed by being screwed onto the neck 5 of the receptacle.

It would not go beyond the ambit of the present invention to provide other fixing means on the outside surfaces of the portions 6 and 7 of the neck 5.

By way of example, Figures 8 and 9 show a receptacle provided with a neck 5' that differs from the above-described neck 5 in that the threads of the first and second portions 6 and 7 are replaced by annular beads 40 and 41, respectively.

The accessories such as a cap 3' and an applicator 15', for example, are then each provided with a respective annular groove 42, 43 suitable for co-operating with the corresponding annular bead 40 or 41 by snap-fastening.

Naturally, the invention is not limited to the examples described above.

In particular, the applicator comb 15 may be replaced by any other type of applicator, e.g. having teeth without any dispenser orifices, with the dispenser orifices being made at the base of the teeth, for  
5 example.

Throughout the description, including in the claims, the term "comprising a" should be understood as being synonymous with "comprising at least one" unless specified to the contrary.